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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,078	02/21/2002	Adam E. Norton	SEN-020	2338
28584	7590	11/02/2004	EXAMINER	
STALLMAN & POLLOCK LLP SUITE 2200 353 SACRAMENTO STREET SAN FRANCISCO, CA 94111			CURTIS, CRAIG	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/081,078	NORTON, ADAM E.	
	Examiner	Art Unit	
	Craig Curtis	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-30 & 33-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Disposition of the Instant Application

- This Office action is responsive to Applicants' Amendment filed on 6 August 2004, which has been made of record in the file.
- By this amendment, Applicants have amended claims 27-30; canceled claims 23-26 & 31 (claims 1-22 & 32 having previously been canceled); and newly added claims 37-42.
- Accordingly, claims 27-30 & 33-42 presently are pending in the instant application.

Withdrawal of Allowability of Claims

1. The previously indicated allowability of claims 27-30 has been withdrawn upon further review of the Hakimi reference (U.S. Patent No.: 5,432,637) in light of Applicants' amendments to the claims. The Examiner realizes that Applicants relied upon his suggestions in making these amendments to the claims, and any inconvenience experienced on the part of Applicants as a result of this development is sincerely regretted by the Examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that Applicants regard as their invention.

2. **Claims 27, 28, 33-38, and 39-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claim 27, the limitation "...where the thicknesses of the plates are in a ratio of 1:3:9...." is indefinite because such**

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recitation does not unambiguously set out the specific order in which said three birefringent plates are disposed relative to one another. That is, the recited thickness ratios of said three birefringent plates relative to one another does not preclude an ordering of the plates such as 3:9:1, 9:3:1, 1:3:9. **Claims 33, 35, and 37** inherit this deficiency by virtue of their dependency from **claim 27**, and with specific reference to **claim 35**, it does not appear--taking the plates as being oriented from left to right, with light entering from the left—that the ordering 9:3:1, which would satisfy this claim, is supported by the specification—or, indeed, if such ordering would even constitute a depolarizer.

With regard to claim 28, the limitation "...where the thicknesses of the of the plate are in some permutation of the ratios of 3:4:9..." (recited in lines 1-3 of this claim) raises the same indefiniteness issues addressed *supra* with regard to **claim 27**. **Claims 34, 36, and 38** inherit this deficiency by virtue of their dependency from **claim 28**, and with specific reference to **claim 36**, it does not appear--taking the plates as being oriented from left to right, with light entering from the left—that the ordering 9:3:4, which would satisfy this claim, is supported by the specification—or, indeed, if such ordering would even constitute a depolarizer.

With regard to claims 29 & 30, proper antecedent basis has not been provided for the recitations "...where **the** angle between two of the plates..." (Emphasis added.)

With regard to claims 39-42, please refer to like indefiniteness issues addressed *supra* with regard to **claims 27, 28, etc.**

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by Hakimi.

Hakimi discloses the invention as claimed—[a] depolarizer (see Fig. 1) with three birefringent plates where the (read: an) angle between two of the plates is substantially $\left(n + \frac{1}{2}\right)\frac{\pi}{2}$, where n is an integer. This relationship is met by Hakimi by taking $n = 0$, in which case said angle between two of the plates is $\frac{\pi}{4}$ radians or, equivalently, 45 degrees. (In this instance, said angle is taken to be the angle between the respective optical axes of said plates.) Please see ABSRACT.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 27-29 and 33-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hakimi (US Pat. No. 5,432,637).

With regard to claims 27 and 28, **Hakimi** discloses the invention as claimed—[a] depolarizer (see Fig. 1) with three birefringent plates (see, e.g., col. 4, ll. 46-56: i.e., claim 2)—

EXCEPT FOR explicit teachings of the respectively recited thickness ratios (viz., 1:3:9 & 4:3:9, respectively). **Hakimi** does however disclose three birefringent plates nearly satisfying the 1:3:9 thickness ratio recitation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the invention of **Hakimi** such that its three birefringent plates have the thickness ratios respectively recited in these claims, for at least the purpose of optimizing a depolarizing effect, the reference clearly disclosing the teaching of three birefringent plates having different thicknesses relative to one another, because it has been held that discovering optimum values of result-effective variables involves only routine skill in the art. *In re Boesch*, 617 F.2d, 205 USPQ 215 (CCPA 1980).

With regard to claim 29, Hakimi discloses (as set forth above with regard to claim 30) where an angle between two of the plates is substantially 45 degrees, **and because no criticality has been associated in either of claims 29 or 30 regarding the angles set out therein**, it would have been obvious to one having ordinary skill in the art to have constituted the depolarizer of **Hakimi** such that the (read: an) angle between two of said plates be equal to an angle satisfying the expression in claim 29--which, for $n = 0$, becomes $[\cos^{-1}(-1/3)]/4 = 27.368^\circ$ —for at least the purpose of optimizing depolarization of incident light, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (CCPA 1955).

With regard to claims 33 & 34, it is asserted that the relative thicknesses taught by **Hakimi** further are such that at least one retardance frequency would vanish in a first quadrant.

With regard to claim 35, Hakimi explicitly teaches where the thicknesses of the three plates are selected such that the plate of intermediate thickness is positioned between the two remaining plates. *See* Fig. 1.

With regard to claim 36, the teachings set out in the **Hakimi** reference implicitly, if not explicitly, encompass an arrangement of said three plates where the thicknesses of the three plates are selected such that the plate of least thickness is positioned between the remaining two plates. *See, e.g.,* claims 1 and 2, in which the order in which said at least three plates are arranged is not limited to the exemplary ordering between same that is depicted in Fig. 1.

With regard to claims 37 & 38, Hakimi explicitly discloses wherein each of the birefringent plates has an ordinary axis, each birefringent plate having a substantially different rotation angle of the respective ordinary axis. Cf. 6 to 10 and 10 to 14 in Fig. 1.

With regard to claims 39-42, please refer to comments made above regarding the rejection of like limitations recited in claims 27 and 28.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Curtis, whose telephone number is (571) 272-2311. The examiner can normally be reached on Monday-Friday, 9:00 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn, can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.H.C.
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25 October 2004

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